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Attorney Docket No. P22017

In re application of : Joseph CRESTIN et al.

Mail Stop Amendment

Application No. : 10/088,645 Group Art Unit : 3679

Filed : April 18, 2002 Examiner : A.M. Dunwoody

For : AXIAL MAINTENANCE DEVICE FOR A CYLINDRICAL ELEMENT AND IN PARTICULAR A CABLE

Mail Stop Amendment
U.S. Patent and Trademark Office
220 20th Street S.
Customer Window
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202
Sir:

Transmitted herewith is an **Appeal Brief (in triplicate)** in the above-captioned application.

__X__ Small Entity Status of this application under 37 C.F.R. 1.9 and 1.27 has been established by a previously filed statement.
____ A verified statement to establish small entity status under 37 C.F.R. 1.9 and 1.27 is enclosed.
____ A Request for Extension of Time.
____ No additional fee is required.

The fee has been calculated as shown below:

Claims After Amendment	No. Claims Previously Paid For	Present Extra	Small Entity		Other Than A Small Entity	
			Rate	Fee	Rate	Fee
Total Claims: 23	*23	0	x 9=	$ 0.00	x 18=	$
Indep. Claims: 3	**3	0	x 43=	$ 0.00	x 86=	$
Multiple Dependent Claims Presented			+145=	$ 0.00	+290=	$
Appeal Brief Filing Fee				$165.00		$
			Total:	$165.00	Total:	$

* If less than 20, write 20
** If less than 3, write 3

____ Please charge my Deposit Account No. 19-0089 in the amount of $_____.
__X__ A check in the amount of $165.00 to cover the filing fee is included.
__X__ The U.S. Patent and Trademark Office is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 19-0089.
__X__ Any additional filing fees required under 37 C.F.R. 1.16.
__X__ Any patent application processing fees under 37 C.F.R. 1.17, including any required extension of time fees in any concurrent or future reply requiring a petition for extension of time for its timely submission (37 C.F.R. 1.136(a)(3)).

Neil F. Greenblum
Reg. No. 28,394

P22017.A07

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Joseph CRESTIN et al.

Group Art Unit: 3679

Serial No : 10/088,645

Examiner: A. M. Dunwoody

Filed : April 18, 2002

For : AXIAL MAINTENANCE DEVICE FOR A CYLINDRICAL ELEMENT AND IN PARTICULAR A CABLE

APPEAL BRIEF

Commissioner For Patents
PO Box 1450
Alexandria, Virginia 23313-1450

Sir:

This appeal is from the Examiner's final rejection of December 29, 2003. Appellant filed a Notice of Appeal on June 29, 2004 and is filing this Appeal Brief by the two month due date of August 30, 2004 (August 29, 2004 being a Sunday).

A. REAL PARTY IN INTEREST

The real party in interest for the invention is Société D' Exploitation Des Procédés Maréchal (SEPM) of Saint Maurice Cedex, France by an assignment filed in the instant U.S. Application No. 10/088,645 and recorded in the U.S. Patent and Trademark Office on April 18, 2002 at Reel 012814 and Frame 0089.

B. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences which would directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

C. STATUS OF CLAIMS

Claims 5-9, 15 and 17-19 stand finally rejected under 35 USC 103(a) as being unpatentable over US patent 5,866,853 to SHEEHAN in view of US patent 3,980,325 to ROBERTSON (hereafter ROBERTSON).

Claims 10-14, 20-24 and 26 stand finally rejected under 35 USC 103(a) as being unpatentable over SHEEHAN in view of ROBERSTON and further in view US patent 4,250,348 to KITAGAWA (hereafter KITAGAWA).

Claims 16, 25 and 27 remain pending but have been withdrawn from examination on the basis of a restriction requirement.

D. STATUS OF AMENDMENTS

Appellant filed a Rule 1.116 Amendment on March 29, 2004 in response to the Final Official Action of December 29, 2004. This Amendment was entered and considered by the Examiner as indicated in the Advisory Action of June 29, 2004. No other amendment or response has been filed by Appellant subsequent to the Final Office Action.

E. SUMMARY OF INVENTION

By way of non-limiting examples of the invention, the figures show a device which

can fix, in the example shown, an electric cable 1 (Figs. 3 to 6) in a bush 2 of an electrical connection system, e.g., the coupling bushing of a plug or mobile plug or of an extension or connector etc. The device according to the invention comprises a coupling bushing 3 which is integral with the bush 2, a sleeve 4, a packing seal 5 which is made of rubber, and a ring shaped nut 6. See paragraphs [0027] and [0028] of the instant specification.

The coupling bushing 3 has a base 7 and the sleeve 4 has a base 8. Extending from these bases 7 and 8 respectively are strips 9 and 10 which protrude externally in the axial direction. The strips 10 of the sleeve 4 are positioned for assembly, as is explained below, towards the strips 9 of the coupling bushing 3 (See Figs. 1 and 2). The base 7 of the coupling bushing 3 is further provided with an external threading. This external threading is intended to co-operate with the internal threading of the nut 6. See paragraph [0029] of the instant specification.

The nut 6 has, arranged at the base of its threading, an internal pressure surface 11 which is reduced, e.g., in truncated form, and whose function will be explained below. In the same way, the base of the coupling bushing 3 has, arranged on the opposite side from the strips 9, a reduced internal pressure surface 12. See paragraphs [0030] and [0031] of the instant specification.

The packing seal 5 has two parts 5a and 5b which form steps of different external diameters. As can be seen in Fig. 4, the smaller external diameter portion (part 5a) of the

packing seal 5 corresponds substantially to the internal diameter of the base 8 of the sleeve 4. The bigger diameter portion (part 5b) of the packing seal 5 corresponds substantially, before deformation, to the internal diameter of the strips 9 of the coupling bushing 3. The external diameter of the sleeve 4 is substantially equal to the internal diameter of the coupling bushing 3. See paragraphs [0032] and [0033] of the instant specification.

The drawings also clearly illustrate a way in which one can assemble together the various elements of the device. The elements are initially arranged as shown in Figs. 1 and 2. Beginning from this assembly, the sleeve 4 is introduced by its strips 10 into the coupling bushing 3, and, either after or before, the part 5a is introduced into the packing seal 5 in the base 8 of the sleeve 4. The covering nut 6 is also set in place on the strips 9 of the coupling bushing 3 in order to assume the position shown in Fig. 3. See paragraphs [0034] - [0036] of the instant specification.

Before or after this first assembly procedure, the cable 1 is introduced through all the elements (2, 3, 4, 5 and 6). See paragraph [0037] of the instant specification.

Starting from the position of Fig. 3, the nut 6 is pushed towards the coupling bushing 3, which itself pushes the packing seal 5 and sleeve 4, until the strips 10 of the sleeve 4 are held radially by the pressure surface 12 of the coupling bushing 3. The strips 10 are then deformed and tightened onto the cable 1 as shown in Fig. 4. See paragraph [0038] of the instant specification.

Next, the nut 6 is screwed further onto the external threads of the base 7. This accentuates the deformation of the strips 10. By continuing the screwing of the nut 6, the strips 9 of the coupling bushing 3 tighten radially onto the packing seal 5. The deformation occurs under the effect of the pressure surface 11 of the nut 6. See paragraph [0039] of the instant specification.

In the embodiment shown in Figs. 1-5, the length of the sleeve 4 and the pressure surface 12 of the coupling bushing 3 are such that the strips 10 of the sleeve 4 are anchored, at the end of screwing procedure, in the cable 1 (see Fig. 5). In the embodiment shown in Fig. 6, however, the base 8 of the sleeve 4 is shorter axially and/or the strips 10 are shorter (as well as the pressure surface 12), in such a way that, in this embodiment, the strips 10 do not anchor in the cable 1. See paragraphs [0040] and [0041] of the instant specification.

As can be seen in Figs. 5 and 6, the packing seal 5 is perfectly compressed by the sleeve 4 and the strips 9 of the coupling bushing 3. Furthermore, the packing seal 5 is also perfectly maintained between its two ends by the strips 9 and 10 of the coupling bushing 3 and the sleeve 4 respectively. See paragraph [0042] of the instant specification.

Compared with prior art devices, the invention enables a greater length of contact between the packing seal 5 and the cable 1, together with a greater volume of deformed packing seal 5. This increases the reliability of sealing and retention, thus ensuring a greater reserve of elasticity to compensate for the relaxation of plastic parts intended to compress the

packing seal 5. See paragraph [0043] of the instant specification.

The strips 9 of the coupling bushing 3 act on the packing seal 5 and the cable 1 in a classic way whereas the strips 10 of the sleeve 4 act in the opposite direction with, further, an anchoring or not, in the cable 1 (see Figs. 5 and 6 respectively). Furthermore, it can be understood that, in the embodiment of Figs. 1 to 5, any traction on the cable 1 accentuates the anchoring of the sleeve 4. As a result, this anchoring is self-blocking. See paragraphs [0044] and [0045] of the instant specification.

Finally, although the embodiments have been described, in particular, with regard to an electric cable, the invention can be used, as explained above, with any cylindrical element. See paragraph [0046] of the instant specification.

F. ISSUES ON APPEAL

(A) Whether Claims 5-9, 15 and 17-19 Are Improperly Rejected Under 35 U.S.C. Section 103(a) as Unpatentable Over SHEEHAN in View of ROBERTSON.

(B) Whether Claims 10-14, 20-24 and 26 Are Improperly Rejected Under 35 U.S.C. Section 103(a) as Unpatentable Over SHEEHAN in View of ROBERTSON and Further in View of KITAGAWA.

G. GROUPING OF CLAIMS

The following groups of claims are considered to stand or fall together, but only for

the purpose of this appeal: claim 15 stands or falls with claim 5. The remaining claims do not stand or fall together, at least for reasons explained below.

H. ARGUMENT

(A) The Rejection of Claims 5-9, 15, and 17-19 Under 35 U.S.C. section 103(a) As Being Unpatentable over SHEEHAN in View of ROBERTSON is in Error, the Rejection Should be Reversed, and the Application Should be Remanded to the Examiner.

Reversal of the rejection of claims 5-9, 15 and 17-19 under 35 USC 103(a) as being unpatentable over SHEEHAN in view of ROBERTSON is requested.

In the rejection, the Examiner asserted that SHEEHAN fairly discloses all of the claimed features recited in these claims except for, among other things, a sleeve which includes nut strips. However, the Examiner asserted that ROBERTSON discloses a sleeve with nut strips and that it would have been obvious to modify the device of SHEEHAN in view of the teachings of ROBERTSON.

By way of background, the invention provides for a device in which two sets of oppositely arranged strips 9 and 10 are engaged and deformed inwardly by two internal pressure surfaces 11 and 12 in order to provide for e.g., two point compression of the cylindrical element or cable 1. In contrast to the instant invention, the applied documents do not suggest a device which recites the combination of two deformable nut strips and two pressure surfaces for deforming these strips, much less, that these features increases, e.g., the

two point compression of the cylindrical element, with two sets of strips and two internal pressure surfaces as the nut is brought closer to the coupling bushing.

Appellant respectfully disagrees that the above-noted claims are unpatentable over the suggested combination of documents. The Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art. This burden is perhaps most succinctly stated in M.P.E.P. 706.02(j) (pages 700-16 - 700-17, July 1998), viz., after indicating that the rejection is under 35 U.S.C. §103, there should be set forth (1) the relevant teachings of the prior art relied upon; (2) the difference or differences in the claim over the applied reference(s); (3) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and (4) an explanation why such proposed modification would have been obvious. It is further explained that, to establish a prima facie case of obviousness, three additional criteria are necessary: (1) there must be some suggestion or motivation to modify the reference; (2) there must be a reasonable expectation of success; and (3) the prior art reference must teach or suggest all the claim limitations. Further, in citing *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991) and *Ex parte Clapp*, 227 USPQ 972 (Bd. Pat. App. & Inter. 1985), it is stated in the M.P.E.P. that the teaching or suggestion to make the claimed invention must be found in the prior art and not be based upon the Appellant's disclosure. *M.P.E.P. 706.02(j) citing In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Appellant submits that the rejection should be reversed at least for the following reasons. First, the references themselves (SHEEHAN and ROBERTSON) fail to teach or suggest the recited combination of features. Second, there is no motivation to properly combine the teachings of the prior art references in the manner asserted by the Examiner.

Notwithstanding the Office Action assertions as to what these documents disclose or suggest, Appellant submits that no proper combination of the above-noted documents discloses or suggests, inter alia, a coupling bushing comprising external threads, first nut strips which extend axially beyond the external threads, and *a first internal pressure surface,* a covering nut comprising *a second internal pressure surface configured to engage and deform ends of the first nut strips radially inwardly and towards the cylindrical element when the cylindrical element is introduced into the coupling bushing and the covering nut*, and a sleeve comprising *second nut strips and an external diameter which is at most equal to an internal diameter of the coupling bushing*, whereby the sleeve, with the second nut strips being introduced first, is adapted to be introduced into the coupling bushing, wherein *the first internal pressure surface is configured to engage and deform ends of the second nut strips radially inwardly and towards the cylindrical element when the cylindrical element is introduced into the coupling bushing and the covering nut,* as recited in independent claim 5, and inter alia, a coupling bushing comprising external threads, first strips which extend axially from one end of the coupling bushing, and *a first internal tapered pressure surface*,

a nut comprising internal threads and *a second internal tapered pressure surface configured to engage and deform ends of the first strips radially inwardly*, the internal threads of the nut being configured to threadably engage the external threads of the coupling bushing, a sleeve comprising *second strips which extend axially from one end of the sleeve*, and the sleeve being configured to slide within the coupling bushing, wherein *the first internal tapered pressure surface is configured to engage and deform ends of the second strips radially inwardly when the nut moves towards the coupling bushing*, as recited in independent claim 17.

Appellant acknowledges that SHEEHAN relates to an electrical conduit connector. Nor does Appellant dispute the Examiner's assertion that Fig. 5 of SHEEHAN can be read to disclose a coupling bushing 119 with nut strips 151 and a nut 162 with a pressure surface 160. Appellant acknowledges, in particular, that col. 8, line 39 of SHEEHAN characterizes the elements 151 as "gripping fingers". However, it is clear from a fair reading of this document that SHEEHAN fails to disclose or suggest a coupling bushing which includes, in addition to the external threads and first nut strips which extend axially beyond the external threads, *a first internal pressure surface*, much less, one wherein *the first internal pressure surface is configured to engage and deform ends of the second nut strips radially inwardly and towards the cylindrical element when the cylindrical element is introduced into the coupling bushing and the covering nut.*

To the contrary, it is clear from Fig. 5 that SHEEHAN does not utilize *a sleeve having second nut strips*. Indeed, while the Examiner has identified member 176 in Fig. 5 of SHEEHAN as the requisite sleeve, the Examiner has acknowledged on page 4 of the Final Office Action that the sleeve 175 lacks the requisite second nut strips.

However, Appellant submits that SHEEHAN lacks much more than a sleeve having the second nut strips. SHEEHAN is also entirely silent with regard to the coupling bushing 119 having any internal pressure surfaces, much less, one that *is configured to engage and deform ends of the second nut strips radially inwardly.*

Appellant acknowledges the Examiner's opinion that ROBERTSON apparently discloses a sleeve 12 with strips (see Fig. 6). However, it is apparent that this document relates to a plastic pipe fitting which is used for an underground lawn sprinkling system (see col. 1, lines 10-13). Thus, the Examiner must acknowledge the instant rejection is based upon the combination of a pipe fitting and an electrical connector system, and that such devices are entirely unrelated to one another.

Appellant submits that, contrary to the Examiner's assertions, it would not have been obvious to one of ordinary skill in the art to use a pipe fitting sleeve from a sprinkler system as taught by ROBERTSON on the electrical conduit connector of SHEEHAN.

Appellant notes that ROBERTSON also fails to disclose or suggest a coupling bushing which includes external threads, first nut strips which extend axially beyond the

external threads, and *a first internal pressure surface* wherein *the first internal pressure surface is configured to engage and deform ends of the second nut strips radially inwardly and towards the cylindrical element when the cylindrical element is introduced into the coupling bushing and the covering nut.* To the contrary, it is clear from at least Fig. 5, that bushing 10 is entirely lacking any nut strips and any internal pressure surfaces, such that this document fails to disclose or suggest a covering nut comprising *a second internal pressure surface configured to engage and deform ends of the first nut strips radially inwardly and towards the cylindrical element when the cylindrical element is introduced into the coupling bushing and the covering nut.* Finally, this document clearly lacks any disclosure or suggestion with regard to a sleeve comprising *second nut strips and an external diameter which is at most equal to an internal diameter of the coupling bushing*, whereby the sleeve, with the second nut strips being introduced first, is adapted to be introduced into the coupling bushing.

Appellant emphasizes that Fig. 7 of ROBERTSON clearly shows that the sleeve 12 slides over the bushing 10 and, thus, the sleeve 12 clearly lacks *an external diameter which is at most equal to an internal diameter of the coupling bushing.* This is in direct contrast to the invention recited in the above-noted claims.

It is also clear that ROBERTSON fails to disclose or suggest a coupling bushing comprising, in addition to external threads, *first strips which extend axially from one end of*

the coupling bushing, and *a first internal tapered pressure surface*, wherein *the first internal tapered pressure surface is configured to engage and deform ends of the second strips radially inwardly when the nut moves towards the coupling bushing.* Again, it is clear from Fig. 5, that bushing 10 is entirely lacking in nut strips and in any internal pressure surfaces. Moreover, while ROBERTSON provides for a nut 14 having internal threads and an internal taper 86 which arguably engages and deforms ends of the sleeve 12 radially inwardly, the sleeve 12 is clearly not configured to slide within the coupling bushing 10/22. Again, Fig. 7 shows that the sleeve 12 slides over the bushing 10/22 and, thus, the Examiner must acknowledge that the sleeve 12 clearly is not configured to slide within the coupling bushing.

Further, the Examiner has not demonstrated why one of ordinary skill in the art would replace the internal sleeve 176 of SHEEHAN with the external sleeve 12 of ROBERTSON. Appellant submits that such a modification would result in there being only one point of contact between the cable 4 and the fingers 151. The invention, on the other hand, provides for a device which has two point contact, i.e., one between nut strips 10 and the cylindrical element and one between nut strips 9 and the cylindrical element.

Appellant submits that one of ordinary skill in the art would also not replace the nut 162 of SHEEHAN with the nut 14 of ROBERTSON. Whereas the nut 162 of SHEEHAN causes the strips 151 to deform inwardly when the nut 162 is threaded away from the coupling bushing 119, the nut 14 in ROBERTSON functions in the opposite manner, i.e.,

Fig. 7 demonstrates that the sleeve 12 is deformed inwardly during a threading of the nut 14 onto the bushing 10/22.

Thus, Appellant submits that the above-noted document fails to disclose or suggest the features recited in at least independent claims 5 and 17. Because no proper combination of SHEEHAN and ROBERTSON discloses or suggests at least the above-noted features of the instant invention, Appellant submits that no proper combination or modification of these documents can render unpatentable the combination of features recited in at least independent claims 5 and 17.

Furthermore, Appellant submits that there is no motivation or rationale disclosed or suggested in the art to modify any of the applied documents in the manner asserted by the Examiner. Nor does the Examiner's opinion provide a proper basis for these features or for the motivation to modify these documents, in the manner suggested by the Examiner. Therefore, Appellant submits that the invention as recited in at least independent claims 5 and 17 is not rendered obvious by any reasonable inspection of these disclosures.

Appellant once again directs the Examiner's attention to the guidelines identified in M.P.E.P section 2141 which state that "[i]n determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other

modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

As this section clearly indicates, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

Moreover, it has been legally established that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) .... Although a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.' 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references)."

Additionally, it has been held that "[a] statement that modifications of the prior art to meet the claimed invention would have been `well within the ordinary skill of the art at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to

establish a prima facie case of obviousness without some objective reason to combine the teachings of the references." *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

Further, in addition to the fact that the rejection should be reversed, at least for the reason that a fair combination of the above-noted documents would not have resulted in the claimed invention, as recited in the independent claims 5 and 17, Appellant's dependent claims recite further features providing separate bases of patentability upon which the rejection should be reversed.

In this regard, claims 6-9, 15, 18 and 19 depend from independent claims 5 and 17, and further recite features which provide a separate basis for patentability in that the recited features are not suggested by any proper combination of these documents. In particular:

Claim 6 is separately patentable from claim 5 in that it recites that the cylindrical element comprises a cable. While Appellant does not dispute SHEEHAN discloses a device for an electrical cable, because ROBERTSON merely relates to a pipe fitting, it is not apparent that one having ordinary skill in the art would combine portions of a device used in the plumbing art with a device used in the electrical art. Nor can it be reasonably argued that a pipe is analogous to a cable so as to justify the combination of these documents;

Claim 7 is separately patentable from claim 5 in that it recites that the first and second internal pressure surfaces are configured to cause the first and second nut strips to be

anchored in the cylindrical element when the covering nut is tightened. This is shown in Figs. 5 and 6 of the instant application. On the other hand, as explained above, each of SHEEHAN and ROBERTSON are entirely silent with regard to the use of first and second strips which are deformed inwardly by respective first and second internal pressure surfaces. Thus, it follows that these documents are also silent on doing so in order to anchored the nut strips in the cylindrical element when the covering nut is tightened;

Claims 8 and 9 are separately patentable from claim 5 in that they respectively recite that the first and second internal pressure surfaces comprise tapered surfaces, and that the first and second internal pressure surfaces comprise tapered surfaces which face in opposite directions. As explained above, each of SHEEHAN and ROBERTSON are entirely silent with regard to the use of first and second strips which are deformed inwardly by respective first and second internal pressure surfaces. Accordingly, it follows that these documents are also silent on doing so with internal tapered surfaces and/or oppositely facing internal tapered surfaces;

Claim 15 stands or falls with claim 5 for purposes of this Appeal;

Claims 18 and 19 are separately patentable from claim 17 in that they respectfully recite that the first and second internal tapered pressure surfaces are configured to cause the first and second strips to be anchored in the cable when the nut is tightened onto the coupling bushing, and the first and second internal tapered pressure surfaces face in opposite

directions. As explained above, each of SHEEHAN and ROBERTSON are entirely silent with regard to the use of first and second strips which are deformed inwardly by respective first and second internal pressure surfaces. Accordingly, it follows that these documents are also silent on doing so with internal tapered surfaces and/or oppositely facing internal tapered surfaces;

Thus, for reasons given above, including reasons given for the reversal of the rejection of independent claims 5 and 17, reversal of the Examiner's decision to finally reject claims 5-9, 15 and 17-19 is requested. Further, Appellant requests that the application be remanded to the Examiner for allowance.

(B) The Rejection of Claims 10-14, 20-24 and 26 Under 35 U.S.C. section 103(a) As Being Unpatentable over SHEEHAN in View of ROBERTSON And Further in View of KITAGAWA is in Error, the Rejection Should be Reversed, and the Application Should be Remanded to the Examiner.

Reversal of the rejection of claims 10-14, 20-24 and 26 under 35 USC 103(a) as being unpatentable over SHEEHAN in view of ROBERTSON and further in view of KITAGAWA is requested.

In the rejection, the Examiner asserted that SHEEHAN/ROBERTSON fairly discloses all of the claimed features recited in these claims except for, among other things, the packing seal. However, the Examiner asserted that KITAGAWA discloses a packing seal 11, and that it would have been obvious to modify the device of SHEEHAN/ROBERTSON in view of

the teachings of KITAGAWA.

Appellant submits that the rejection should be reversed at least for the following reasons. First, the references themselves (SHEEHAN, ROBERTSON and KITAGAWA) fail to teach or suggest the recited combination of features. Second, there is no motivation to properly combine the teachings of the prior art references in the manner asserted by the Examiner.

Notwithstanding the Office Action assertions as to what these documents disclose or suggest, Appellant submits that no proper combination of the above-noted documents discloses or suggests: inter alia, a coupling bushing comprising external threads, first nut strips which extend axially beyond the external threads, and *a first internal pressure surface,* a covering nut comprising *a second internal pressure surface configured to engage and deform ends of the first nut strips radially inwardly and towards the cylindrical element when the cylindrical element is introduced into the coupling bushing and the covering nut*, and a sleeve comprising *second nut strips and an external diameter which is at most equal to an internal diameter of the coupling bushing*, whereby the sleeve, with the second nut strips being introduced first, is adapted to be introduced into the coupling bushing, wherein *the first internal pressure surface is configured to engage and deform ends of the second nut strips radially inwardly and towards the cylindrical element when the cylindrical element is introduced into the coupling bushing and the covering nut,* as recited in independent claim

5; inter alia, a coupling bushing comprising external threads, first strips which extend axially from one end of the coupling bushing, and *a first internal tapered pressure surface*, a nut comprising internal threads and *a second internal tapered pressure surface configured to engage and deform ends of the first strips radially inwardly*, the internal threads of the nut being configured to threadably engage the external threads of the coupling bushing, a sleeve comprising *second strips which extend axially from one end of the sleeve*, and the sleeve being configured to slide within the coupling bushing, wherein *the first internal tapered pressure surface is configured to engage and deform ends of the second strips radially inwardly when the nut moves towards the coupling bushing*, as recited in independent claim 17; and inter alia, a coupling bushing comprising external threads, first strips which extend axially from one end of the coupling bushing, and *a first internal tapered pressure surface,* a nut comprising internal threads and *a second internal tapered pressure surface configured to engage and deform ends of the first strips radially inwardly,* a sleeve comprising *second strips which extend axially from one end of the sleeve,* the sleeve being configured to slide *within the coupling bushing,* and *a tubular packing seal adapted to be inserted partially into the sleeve and the coupling bushing*, wherein *the first internal tapered pressure surface is configured to engage and deform ends of the second strips radially inwardly when the nut moves towards the coupling bushing,* as recited in independent claim 26.

Appellant notes that the deficiencies of the disclosures of SHEEHAN and

ROBERTSON with regard to independent claims 5 and 17 have been discussed above. Moreover, Appellant submits that these same deficiencies of the applied art remain in considering independent claim 26, as well as the Examiner's express indication that these documents fail to disclose or suggest the recited packing seal.

While Appellant does not dispute that KITAGAWA discloses a packing seal 11, the Examiner has failed to appreciate that KITAGAWA fails to disclose or suggest *a first internal pressure surface* wherein *the first internal pressure surface is configured to engage and deform ends of second nut strips radially inwardly and towards the cylindrical element when the cylindrical element is introduced into the coupling bushing and the covering nut.* It is clear from at least Figs. 5 and 6 that the device provides for no internal pressure surface in the coupling bushing 2 and utilizes no sleeve, much less, a sleeve which includes the requisite second nut strips. Further, this document clearly lacks any disclosure or suggestion with regard to a sleeve comprising *second nut strips and an external diameter which is at most equal to an internal diameter of the coupling bushing*, whereby the sleeve, with the second nut strips being introduced first, is adapted to be introduced into the coupling bushing and/or that the sleeve is configured to slide within the coupling bushing.

Because none of the applied documents teach or suggest the recited second pressure surface, and the recited features of the sleeve comprising second nut strips and an external diameter which is at most equal to an internal diameter of the coupling bushing or configured

to slide with the coupling bushing, Appellant submits that no proper combination of the applied art can render unpatentable the combination of features recited in at least independent claims 5, 17 and 26.

Moreover, Appellant submits that the Examiner has not demonstrated why one of ordinary skill in the art, even having knowledge of SHEEHAN, ROBERTSON and KITAGAWA, would replace the internal sleeve 176 of SHEEHAN with the external sleeve 12 of ROBERTSON. Appellant submits that such a modification would result in there being only one point of contact between the cable 4 and the fingers 151. The invention, on the other hand, provides for a device which can provide two point contact, i.e., one between nut strips 10 and the cylindrical element and one between nut strips 9 and the cylindrical element.

Appellant submits that one of ordinary skill in the art, even armed with the knowledge of KITAGAWA, would also not replace the nut 162 of SHEEHAN with the nut 14 of ROBERTSON. Whereas the nut 162 of SHEEHAN causes the strips 151 to deform inwardly when the nut 162 is unthreaded from the coupling bushing 119, the nut 14 in ROBERTSON functions in the opposite manner. Again, Fig. 7 demonstrates that the sleeve 12 is deformed inwardly during tightening onto the bushing 10/22. Moreover, KITAGAWA likewise fails to provide any teaching or suggestion for modifying the applied art in the manner asserted by the Examiner.

Thus, Appellant submits that the above-noted document fails to disclose or suggest

the features recited in at least independent claims 5, 17 and 26. Because no proper combination of SHEEHAN, ROBERTSON and KITAGAWA discloses or suggests at least the above-noted features of the instant invention, Appellant submits that no proper combination or modification of these documents can render unpatentable the combination of features recited in at least independent claims 5, 17 and 26.

Furthermore, Appellant submits that there is no motivation or rationale disclosed or suggested in the art to modify any of the applied documents in the manner asserted by the Examiner. Nor does the Examiner's opinion provide a proper basis for these features or for the motivation to modify these documents, in the manner suggested by the Examiner. Therefore, Appellant submits that the invention as recited in at least independent claims 5, 17 and 26 is not rendered obvious by any reasonable inspection of these disclosures.

Further, in addition to the fact that the rejection should be reversed, at least for the reason that a fair combination of the above-noted documents would not have resulted in the claimed invention, as recited in the independent claims 5, 17 and 26, Appellant's dependent claims provide further limitations based upon which the rejection should be reversed.

In this regard, claims 10-14 and 20-24 depend from independent claims 5 and 17, and further recite features which provide a separate basis for patentability in that the recited features are not suggested by any proper combination of these documents. In particular:

Claims 10-12 are separately patentable from claim 5 in that they respectively recite

that a tubular packing seal adapted to be inserted in, a final assembled position, between the cylindrical element and the sleeve, a tubular packing seal adapted to be inserted in, a final assembled position, between the cylindrical element and the first nut strips, and a packing seal adapted to slide over the cylindrical element and into the sleeve. While Appellant does not dispute that KITAGAWA discloses a tubular packing seal 11. It is not apparent that one having ordinary skill in the art would use the packing seal of KITAGAWA on the device of SHEEHAN as modified by ROBERTSON, at least because the packing seal 11 of KITAGAWA is not used, or design to be used, with or within a sleeve. Nor is the packing seal 11 designed to slide within both the sleeve and the coupling bushing, as is the case in the instant invention;

Claims 13 and 14 are separately patentable from claims 5 and 12 in that they respectively recite that the packing seal comprises a first part having a first external diameter and a second part having a different second external diameter, and that the first diameter is smaller than the second diameter, wherein the first diameter corresponds substantially to an internal diameter of the sleeve, and wherein the second diameter corresponds substantially to the internal diameter of the coupling bushing. The Examiner has acknowledged that each of SHEEHAN and ROBERTSON lack the packing sleeve. Moreover, it is clear that the packing sleeve 11 of KITAGAWA is cylindrical. Accordingly, even if it were proper to use the packing seal 11 of KITAGAWA on the device of SHEEHAN/ROBERTSON, such a

device would not disclose or suggest that the packing seal includes a first part having a first external diameter and a second part having a different second external diameter, much less, a packing seal wherein the first diameter is smaller than the second diameter, wherein the first diameter corresponds substantially to an internal diameter of the sleeve, and wherein the second diameter corresponds substantially to the internal diameter of the coupling bushing; and claims 20-24 are separately patentable from claim 17 for substantially the same reasons as those presented above with regard to claims 10-14.

Thus, for reasons given above, including reasons given for the reversal of the rejection of independent claims 5, 17 and 26, reversal of the Examiner's decision to finally reject claims 10-14, 20-24 and 26 is requested. Further, Appellant requests that the application be remanded to the Examiner for allowance.

I. CONCLUSION

For the reasons advanced above, Appellant submits that the rejections are erroneous and should be reversed. Claims 5-15, 17-24 and 26 patentably define over the applied art of record. Claims 16, 25 and 27 should be rejoined if and when claims 5, 17 and 26 are found to be allowable.

This appeal brief is being submitted in triplicate, pursuant to 37 CFR 1.192(a).

A check is enclosed in the amount of $165.00 for payment of the fee for filing an appeal brief, as set forth in 37 CFR 1.17(c).

P22017.A07

The Commissioner is authorized to charge any additional fee, or to credit any overpayment, to Deposit Account No. 19-0089.

Respectfully submitted,
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Attachments: Claims on Appeal

Claims on Appeal:

5. A device for axially maintaining a cylindrical element, the device comprising:

a coupling bushing comprising external threads, first nut strips which extend axially beyond the external threads, and a first internal pressure surface;

a covering nut comprising a second internal pressure surface configured to engage and deform ends of the first nut strips radially inwardly and towards the cylindrical element when the cylindrical element is introduced into the coupling bushing and the covering nut; and

a sleeve comprising second nut strips and an external diameter which is at most equal to an internal diameter of the coupling bushing, whereby the sleeve, with the second nut strips being introduced first, is adapted to be introduced into the coupling bushing,

wherein the first internal pressure surface is configured to engage and deform ends of the second nut strips radially inwardly and towards the cylindrical element when the cylindrical element is introduced into the coupling bushing and the covering nut.

6. The device of claim 5, wherein the cylindrical element comprises a cable.

7. The device of claim 5, wherein the first and second internal pressure surfaces are configured to cause the first and second nut strips to be anchored in the cylindrical element when the covering nut is tightened.

8. The device of claim 5, wherein the first and second internal pressure surfaces comprise tapered surfaces.

9. The device of claim 5, wherein the first and second internal pressure surfaces comprise tapered surfaces which face in opposite directions.

10. The device of claim 5, further comprising a tubular packing seal adapted to be inserted in, a final assembled position, between the cylindrical element and the sleeve.

11. The device of claim 5, further comprising a tubular packing seal adapted to be inserted in, a final assembled position, between the cylindrical element and the first nut strips.

12. The device of claim 5, further comprising a packing seal adapted to slide over the cylindrical element and into the sleeve.

13. The device of claim 12, wherein the packing seal comprises a first part having a first external diameter and a second part having a different second external diameter.

14. The device of claim 13, wherein the first diameter is smaller than the second diameter, wherein the first diameter corresponds substantially to an internal diameter of the sleeve, and wherein the second diameter corresponds substantially to the internal diameter of the coupling bushing.

15. The device of claim 5, wherein the covering nut comprises internal threads configured to threadably engage the external threads of the coupling bushing.

17. A device for fixing a cable to a plug or a socket, the device comprising:

a coupling bushing comprising external threads, first strips which extend axially from one end of the coupling bushing, and a first internal tapered pressure surface;

a nut comprising internal threads and a second internal tapered pressure surface configured to engage and deform ends of the first strips radially inwardly;

the internal threads of the nut being configured to threadably engage the external threads of the coupling bushing;

a sleeve comprising second strips which extend axially from one end of the sleeve; and

the sleeve being configured to slide within the coupling bushing,

wherein the first internal tapered pressure surface is configured to engage and deform ends of the second strips radially inwardly when the nut moves towards the coupling bushing.

18. The device of claim 17, wherein the first and second internal tapered pressure surfaces are configured to cause the first and second strips to be anchored in the cable when the nut is tightened onto the coupling bushing.

19. The device of claim 17, wherein the first and second internal tapered pressure surfaces face in opposite directions.

20. The device of claim 17, further comprising a tubular packing seal adapted to be inserted between the cable and the sleeve.

21. The device of claim 17, further comprising a tubular packing seal adapted to be inserted between the cable and the first strips.

22. The device of claim 17, further comprising a packing seal adapted to slide over the cable and into the sleeve.

23. The device of claim 22, wherein the packing seal comprises a first part having a first external diameter and a second part having a different second external diameter.

24. The device of claim 23, wherein the first diameter is smaller than the second diameter, wherein the first diameter corresponds substantially to an internal diameter of the sleeve, and wherein the second diameter corresponds substantially to the internal diameter of the coupling bushing.

26. A device for fixing a cable to a plug or a socket, the device comprising:

a coupling bushing comprising external threads, first strips which extend axially from one end of the coupling bushing, and a first internal tapered pressure surface;

a nut comprising internal threads and a second internal tapered pressure surface configured to engage and deform ends of the first strips radially inwardly;

the internal threads of the nut being configured to threadably engage the external threads of the coupling bushing;

a sleeve comprising second strips which extend axially from one end of the sleeve;

the sleeve being configured to slide within the coupling bushing; and

a tubular packing seal adapted to be inserted partially into the sleeve and the coupling bushing,

wherein the first internal tapered pressure surface is configured to engage and deform ends of the second strips radially inwardly when the nut moves towards the coupling bushing.